

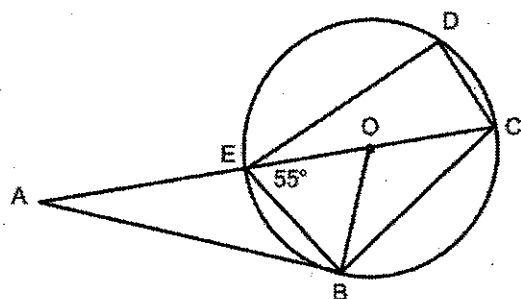
Name: ANSWER KEY

Date: _____

Per.: _____

Circles Unit Test PRACTICE

1. Directions: Use the diagram and the word bank to fill in the blanks. (1 point each)

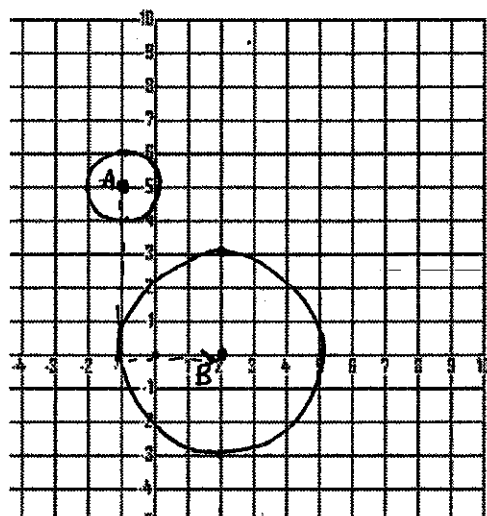


WORD BANK

central angle	center
radius	diameter
tangent	major arc - more than 180°
minor arc - less than 180°	semi-circle - equal to 180°
chord	inscribed angle

- | | |
|--|---|
| a. Point O is a <u>center</u> . | f. \overline{CE} is a <u>diameter</u> . |
| b. \overline{BE} is a <u>chord</u> . | g. \overline{OB} is a <u>radius</u> . |
| c. \widehat{EDC} is a <u>semi-circle</u> . | h. \widehat{BC} is a <u>minor arc</u> . |
| d. \widehat{ECD} is a <u>major arc</u> . | i. $\angle BOC$ is a <u>central angle</u> . |
| e. $\angle DEC$ is an <u>inscribed angle</u> . | j. \overline{AB} is a <u>tangent</u> . |

2. Directions: Use the coordinate plane below to map Circle A onto Circle B, then write the series of transformations you performed. (6 points)



Circle A – center: $(-1, 5)$, radius: 1

Circle B – center: $(2, 0)$, radius 3

Series of Transformations:

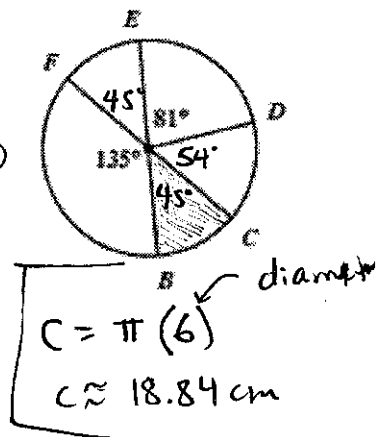
Translation: down 5, right 3

Dilation: scale factor of 3

3. Directions: Using the circle below (4 points each):

- name five arcs
- find their measures
- choose TWO arcs and find their lengths given a radius of 3cm

Arc Name	Arc Measure	Arc Length
1. \widehat{FB}	135°	#1 $\frac{135}{360} \cdot 18.84 = 7.1 \text{ cm}$
2. \widehat{ED}	81°	
3. \widehat{FE}	45°	#3 $\frac{45}{360} \cdot 18.84 = 2.4 \text{ cm}$
4. \widehat{DC}	54°	
5. \widehat{BC}	45°	



4. Find the area of the shaded sector, given the same radius (3 cm). (2 points)

$$A_{\text{TOTAL}} = \pi(3)^2$$

$$A_{\text{TOTAL}} \approx 28.26 \text{ cm}^2$$

$$\frac{45}{360} \cdot 28.26 = 3.5 \text{ cm}^2$$

5a. Write the equation of a circle with center of (3,2) and radius of 4. (3 points)

$$(x-3)^2 + (y-2)^2 = 16$$

$$\star (x-h)^2 + (y-k)^2 = r^2$$

$(h,k) \rightarrow \text{center}$

$r \rightarrow \text{radius}$

$(x,y) \rightarrow \text{any point on the circle}$

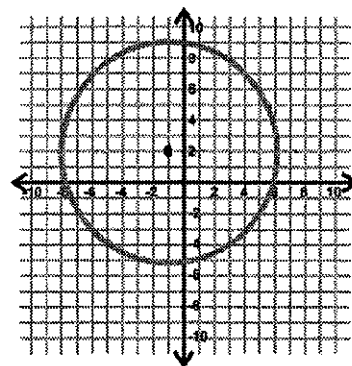
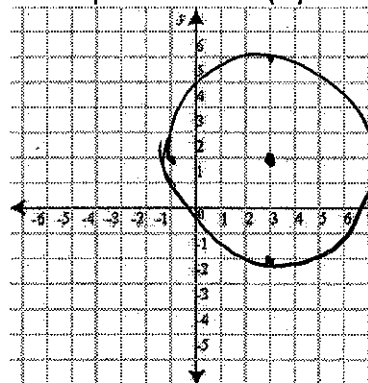
6. What is the equation of the circle to the right? (3 points)

center: $(-1, 2)$

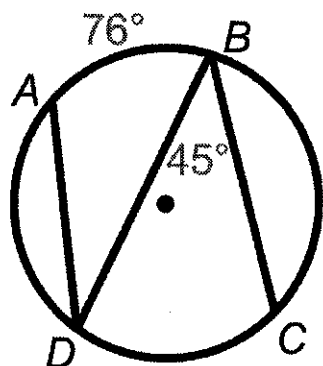
radius: 7

$$(x+1)^2 + (y-2)^2 = 49$$

5b. Graph the circle. (2 points)



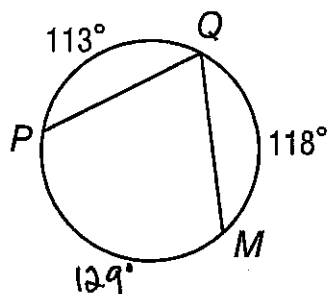
7.



7a. Find the measure of $\angle ADB$. 38° (2 points)

7b. Find the measure of \widehat{DC} . 90° (2 points)

8.



8a. Find the measure of \widehat{PM} . 129° (2 points)

8b. Find the measure of $\angle MQP$. 64.5° (2 points)

